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Making trade shows work for you

Martin Palicki, IPM editor



There's always room for a customer service story

Judith Rubin, IPM co-editor

f you're reading this, chances are you've gotten on a plane in the last 60 days to head to EAS, WWA, ASTC, or SATE....and you're probably getting ready for IAAPA (or you're there now). The fall season of trade shows can be exhausting, but it's how business gets done and we often take for granted all the work and planning that goes into them. A big thank you to all the associations, leaders, workers and volunteers who help to organize our industry's many great trade shows and conferences.

InPark reports from all the trade shows we attend, and typically supply an army of photos to match – but usually only online. If you haven't bookmarked our website (inparkmagazine. com) or liked our Facebook page (facebook. com/inparkmagazine) you're missing out on the whole experience. You can also join our Top 5 weekly email list at both of those sites, which will have links to our show coverage.

When you're at shows, especially at IAAPA, I encourage you to use InPark (and the other industry trade publications) as a guide to help you navigate the week. We have been working with companies and planning this issue for months, so we have already done the work of finding the newsmakers and hot projects. Additionally, you can see who is investing in our industry and the future.

Be sure to grab a copy of InPark at our booth (#1755) and say hello to both Judy Rubin and me. If you're reading this post-show, check out our show coverage at the links above.

Finally, on an unrelated note, I wanted to thank Bob Rogers (BRC), Craig Hanna (Thinkwell), and Bucky Elkins (West Coast Training & Development) for helping pull together a spectacular Hollywood auction package for a non-profit fundraiser here in Milwaukee. You are all superstars! Thank you!

October 11, Kansas City airport. Stepping away from the Southwest kiosk after printing my boarding pass, I saw a long line snaking behind me and heard the announcement that the airline's systems were down except for the kiosks. Reaching my gate, I received a phone call: family emergency. I needed to alter my plans, fly to a different city and get to the hospital. An agent advised me to wait for the system to come back up, or see if a third party could book it for me. Both options failed.

The minutes ticked by. Now the kiosks were only working intermittently. Southwest agents began fanning through the terminal like nurses on a battlefield, writing paper boarding passes so that people with passes on smartphones could board their flights. My composure faded. I approached another gate agent, who sprang into action. The terminal wasn't working, but the phone was. She contacted two supervisors, wrote me an emergency boarding pass for my new flight and sent me on my way with a much-needed hug.

What I saw and experienced that day were teamwork and responsive customer service. As the crisis deepened, Southwest and its employees adapted. They used available resources. They found a way to let customers do what they'd come to do: travel. Some of those travelers were on their way to and from our visitor destinations, which also has outstanding service at its core. How will you turn a problem into an opportunity when it's your turn?



InPark News Editor Joe Kleiman (joe@ inparkmagazine.com) corresponds for IPM online and in print, specializing in design and technology for attractions, museums and giant screen cinema. He lives in Sacramento with his dog, Bucky.

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"Don made sure the team overcame the obstacles and was key in delivering a first class film."

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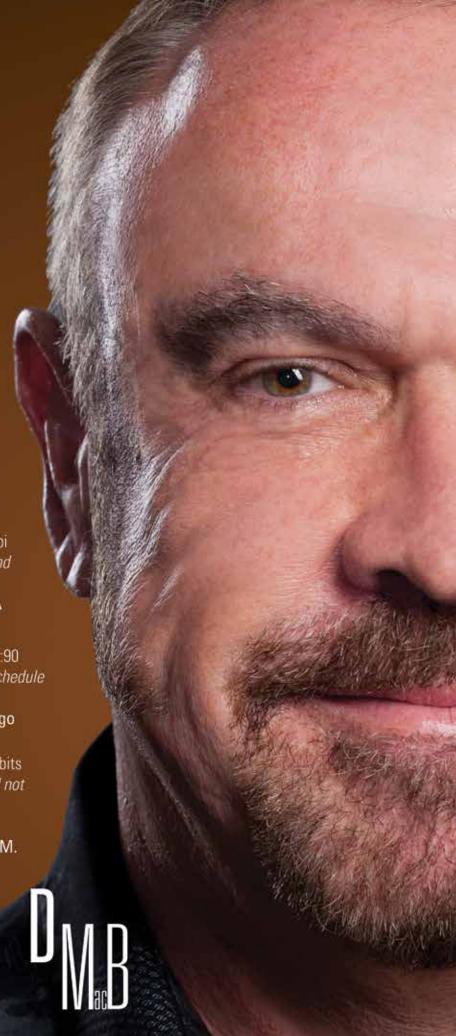
Lisa D. Dunwell, V.P. Marketing / Wells Fargo

Permian Basin Petroleum Museum — 122 Media Exhibits "This project would have been overwhelming if I had not had MacBain overseeing & leading me through the process of all the media creation."

Kathy Shannon, Executive Director / P.B.P.M.



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InPark Magazine (ISSN 1553-1767) is published five times a year by Martin Chronicles Publishing, LLC. 2349 E Ohio Ave. Milwaukee, WI 53207. Shipping address: 2349 E Ohio Ave. Milwaukee, WI 53207. Phone: 262-412-7107. Printing by Short Run Printing

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Postmaster: Send address changes to InPark Magazine 2349 E Ohio Ave. Milwaukee, WI 53207. Subscriptions are available annually for \$40 per year (\$55 international).

Opinions expressed in editorial matter are not necessarily those of InPark Magazine or its publishers, Martin Chronicles Publishing, LLC.

COVER: Humongaslide entertains guests at Cartoon Network Amazone waterpark Full story on p 20. Cover credit: Polin



DISCOVER THE THRILL

World's Leading Waterpark Designer and Manufacturer



Sneak Peek

"Trends in Design" with Shawn McCoy

by Kimberly Rily

Tor the last five years, JRA's Shawn McCoy and Thinkwell Design's Cynthia Sharpe have been breaking down the latest attraction, technology and design trends through their annual Museum Day presentation at the 2015 IAAPA Attractions Expo. IPM caught up with Shawn to get a sneak peek at his 2015 Trends in Design Presentation and to discuss how lessons learned in the entertainment world can help museums and cultural centers shape their infrastructure, exhibits and programming.

In general, how much impact does design have on guest experience?

Design influences the level to which an experience engages guests emotionally and intellectually, and the degree to which an experience stays within a guest's memory.

What is your main emphasis this year?

For this year's presentation, I wanted to go beyond just detailing a series of cool projects to see if there were some underlying approaches and techniques that made each experience really resonate with visitors.

What approaches and techniques did you look at?

Everything from unique storytelling techniques to immersive media to the use of gameplay within the museum environment.

What kinds of projects will you discuss?

I'll look at a wide variety of project types, ranging from traditional history museums to sports halls of fame, nature centers to art museums.



Shawn McCoyJack Rouse
Associates

Do these design approaches migrate easily across markets - for instance, from museums to theme parks?

Absolutely. When you really break down the DNA of a good visitor experience, the approaches and techniques can be used across a variety of industries.

While the missions are very different between amusement parks and museums – the former being commercial in nature and the latter being educational – they both are remarkably similar in that they want to attract guests to a space, engage them on a variety of levels, and provide value for the time and money spent.

What has been the biggest change in design trends you've seen since IAAPA 2014?

Personalizing the guest experience continues to be a leading trend. I also believe that virtual reality will make a huge leap in 2016 with the mass release of new technologies and will create exciting new opportunities to immerse audiences like never before. •••

JRA (Jack Rouse Associates) is a group of writers, planners, designers, media producers and project managers based in Cincinnati, Ohio, United States. Named by The Wall Street Journal as "one of the world's more prominent design firms," JRA is a multidisciplinary firm that has been structured to conceive, visualize and realize unique audience experiences around the globe. For more information on JRA, please visit www.jackrouse.com or follow @JRAtweets.

Kimberly Rily is a contributing editor to InPark Magazine.

"Emerging Trends in Immersive Design: A 2015 Review", a 2015 IAAPA Attractions Expo presentation, will take place Monday, November 16 from 3:30 to 4:45 p.m. at the Orange County Convention Center in Orlando, Florida.



The Tom Bradley International Terminal at LAX includes media-based art installations controlled by ISAAC. Photo courtesy of LAX and LAWA

ISAAC takes control

Smart Monkeys brings enterprise level systems to themed entertainment

by Karla Grant



Karla Grant Smart Monkeys

Tom Bradley International Terminal at LAX, ISAAC, an enterprise grade control, media and systems' hosting platform developed by Smart Monkeys, Inc. and honored with more than a dozen awards, was introduced to entertainment markets in 2014 at the IAAPA Attractions Expo in Orlando. With ISAAC, Smart Monkeys has since entered into new partnerships and applications that are re-shaping entertainment systems design, show control and operations in terms of technology, centralization, scope, and guest experience. [See "Building Bridges," InPark issue #53.]

ISAAC is an acronym for Integrated Scheduler and Automation Controller. "ISAAC is a fully integrated AV/IT platform, which includes centralized scheduling along with the capability of both system-wide log and user management," said Stephan Villet, Owner, Smart Monkeys. "ISAAC is a modular platform that redefines systems integration by relying on virtualization to provide unparalleled flexibility and reliability." AV and tech systems that rely on networked PCs are familiar in themed entertainment projects – ISAAC builds on this approach without the actual PC hardware. The PCs exist virtually, in a cloud-based "virtualization cluster," on a robust, industrial hardware platform. According to Villet, this replicates the advantages of networked PCs without the drawbacks.

This year at IAAPA, Smart Monkeys will further demonstrate the capabilities of this platform through various partnerships. Among these partners is ETC (Electronic Theatre Controls, a leader and pioneer in theatrical lighting gear and control consoles). Through

collaboration with Smart Monkeys, ETC is now offering a full featured software version (i.e. virtual) of its popular EOS lighting console. Each virtual instance can deliver up to 64 DMX universes (or 32k+ DMX output) from within the ISAAC platform.

"Working with ETC provides not only a technical opportunity but it gives Smart Monkeys an enhanced position in the marketplace by partnering with such an esteemed industry leader," said Villet.

Smart Monkeys is also furthering its close relationship with Medialon - a leading provider of show control software and well-known to themed entertainment markets - to deepen the possibilities for integrated user experiences. For example, ISAAC can easily schedule Medialon processes.

The ISAAC platform has been chosen for a variety of new projects. It was recently installed at the Comcast Experience in Philadelphia and is under deployment at the new \$350 million Liberty Center development in Cincinnati, Ohio. ISAAC has also been adopted for a second airport project following its highly praised LAX debut. Smart Monkeys was selected by the Greater Orlando Aviation Authority to design a similar and ambitious multimedia environment for the upcoming South Terminal Complex at the Orlando International Airport.

These major projects help demonstrate the wide-ranging capabilities of ISAAC across various markets. The company is currently involved in the design of other large-scale projects in both Asia and the Middle East, with additional announcements expected soon.

Smart Monkeys' roots remain in themed entertainment, and the company's return to the IAAPA Orlando trade show floor highlights their commitment to the theme park industry. "We are currently working with a variety of theme parks around the world and look forward to being able to discuss the projects soon," said Villet. •••

Visit Smart Monkeys at IAAPA (booth 255) or at www.smartmonkeys.com

Karla Grant is the Business Manager at Smart Monkeys, Inc. Along with managing the financial aspect of the business; she is involved with marketing for the company. You can find her latest blog post on the company's website as well as the Smart Monkeys' Facebook and Twitter accounts. She is an Alumni at Florida International University and has a Bachelors Degree in Human Resource Management.

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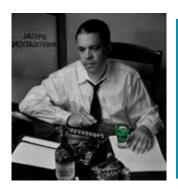




Art Alive uses technology to bring kids' creations to life. *Photo courtesy of the Crayola Experience*

Because it's Crayola

New brand experiences color outside the lines - actively



David Paul Green Visual Terrain

"The Crayola Experience is about experiencing creativity in bigger-than-life ways that you can't really experience at home," said Victoria "Vicky" Lozano, Crayola Senior Vice President and General Manager for Attractions & Retail. "It's also about family experiences." In other words, it's not just about crayons, though the iconic Crayola crayon stands at the core.

The success of the first Crayola Experience, which — since its post-renovation re-opening in 2013 near the original Crayola Factory in Easton, Pennsylvania — draws some 400,000 visitors annually, encouraged the company to continue this form of brand extension by taking it into new markets. The Orlando Crayola Experience opened in July 2015, and Crayola is reportedly pleased with the results - so much so that the company has already announced a third location, at the Mall of America in Minneapolis.

What's unique about the Crayola Experience? Lozano said, "Parents are doing things with their kids. Parents will do their own projects or they're actively involved helping their kids. It's a dynamic you don't see in a lot of places." There's a lot to see and do, and Lozano said, "When people come to Crayola Experience, they're staying 3 or 4 hours." And they're motivated to return more than once. "A lot of attractions, people go once a year or once in a lifetime. We offer an opportunity for people to come back time after time. It's different every time you return."

George Wade, president of Bay Laurel Advisors, contracted to Crayola as owner's rep and project manager for Crayola



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Experience, said, "What makes the Crayola brand unique is the fact that it is a cherished brand across demographics, young and adult. It is a most trusted brand for mothers."

The experiential design firm, Weber Group, worked with Crayola to develop the overall creative vision for Crayola Experience Orlando. Adam McIntyre, creative director on the project for Weber Group, said, "Crayola has been around for a long time and is instantly recognizable around the world. The whole team felt a deep responsibility being part of that heritage and a personal responsibility as we began to shape part of its future." Weber Group's key personnel for the project were Donny Weber, company owner and VP, who leads Weber from the design and architectural side, McIntyre, project designer Melissa Leahy and project manager Richard Antczak.

From Easton to Orlando

Crayola Experience Orlando has been positioned to differentiate from theme parks in a city best known for its theme parks. "Our competition is not theme parks - for three primary reasons," Wade said. "First, their price point is very different. The Crayola Experience ticket price is \$21.99; the annual pass is only \$34.99 and guests can opt to apply the cost of a one-day ticket to an annual pass. Second, Crayola Experience provides for an average three-hour length of stay. Third, Crayola Experience is about

hands-on, open-ended experience. Crayola sees creativity as an engaging, participatory process, versus something that is passive in nature, and the Crayola Experience brings interactive participation to life through its 25 different attractions."

One of the key distinctions of the Crayola Experience in Orlando is its orientation to the resident market. "Since the Crayola Experience is a highly repeatable attraction, Crayola's primary target is the local resident in the Metro Orlando marketplace," said Wade. "It appeals to tourists as well, but the core business principle begins with enhancing the emotional relationships with families within Orlando." Wade reports that in just the first three months of operation, Crayola Experience was quickly adopted as a favorite in Orlando by local summer camps and families. "They're looking for something unique, that is fun and educational at the same time," he said.

When the opportunity at the Florida Mall presented itself, "Crayola realized this is a different product than what was already in the market, and wasn't afraid of going head-to-head against the existing themed attractions," said Wade. "Convincing guests to visit is always going to be something that has to be done, no matter what market you go into." Maintaining and deepening the relationship between brand and consumer was key. "Crayola knew they needed to move this product into its next generation



Spin Art turns Crayola's bright colors into a take-home art piece. *Photo courtesy of the Crayola Experience*

of life, and to do it in a very intelligent and cautious manner. Crayola is owner-operator of the Experience, and the trust the company has from consumers is a trust they take very seriously."

Wade was first brought in to help make the transition that resulted in the first Crayola Experience. His own experience spans three decades working on themed entertainment and special venue projects ranging from large-scale theme parks to independent attractions, from the pre-development side as well as the design and execution side. Like many attractions industry professionals, his background is in theatre.

Crayola leveraged its experience with the Easton site into the Orlando project. "There were a tremendous amount of lessons we learned from Easton," Wade said. "From operations, market research with our guests... We learned from our guests. We will always do that."

Inside the team and the project

As with the first Experience, Crayola's team was able to open the new project in a relatively short time. "It takes a village, and this took a village, especially under such time constraints," Wade said. "We did this project in 11-and-a-half months!" He praised the team that was able to turn the project around so quickly, which included Crayola's Facility Engineering department; the architectural and construction division at Hallmark; the Building Construction division at Simon Properties, and General Contractor J. Raymond Construction Corp.

Daniel Aylward, of Worldwide Leisure Management, who was part of the Crayola Experience team as a consultant, became COO of Crayola Attractions as a full-timer in November 2013. "Dan is a true, long-term expert in our industry," Wade said. "Retaining a world-class operations executive was a critical part of Crayola's commitment to truly running a first-class attraction for their guests."

In addition to the above-mentioned companies and individuals and Weber Group, the team included (alphabetically listed) 37 Volts Lighting Design, retail lighting designer; Callison – Los Angeles, project architect; Geograph Industries for fabrication of the retail storefront and retail fixtures; IRES, real estate adviser; Magnetic Dreams, animation development; Management Resources, operations consultant; RAW Media Teknologies, audio video design and implementation; Reztark Design as project retail designers and architect of record; and Visual Terrain, attraction lighting design.

Key vendors included 1220 Exhibits for sets; CES (Creative Engineering Solutions) for interactive mechanical experiences; and software providers Little Orbit, Daqri and Zugara. ECA (Entertainment+Culture Advisors) did the initial market analysis that laid the foundation for Crayola's search for a second location outside of Easton.

Weber Group's McIntyre said, "Inspiration in this case for the project was simply the product itself. Encouraging parent participation and involvement in the attractions was a key goal for Crayola and at the forefront of how we approached each unique experience. In addition to their design role, Weber Group produced some of the branded themed elements, such as the large Tip characters (big crayon guys) that enliven the exterior approach.

Lighting played a significant part in the creative approach to the attraction. Visual Terrain principal designer Mike Mahlum said, "We had several creative influences, the Crayola brand being the primary driving element. It's what drove our fixture choices, and the lighting patterns we selected with them." For example: "For 'Doodle in the Dark,' which allows guests to create their own glowing designs on backlit doodle boards, we chose to use templates that look like scribbles and overlay them across the entire floor in this area," said Mahlum. "This helped to give the guest a feeling of comfort, as there was now illumination in the space, but it allowed us to keep any spill off the walls where the experience component was located. The scribble pattern helped to reinforce what the area is used for. With the bright colors in the floors, we did not need any bright colors in the lights. It made the space become fully immersive."

The 25 hands-on attractions in Crayola Experience Orlando also include "Art Alive!" where guests can project their own digital art on the wall. In "Wrap it Up!" they can personalize and print a Crayola crayon label and wrap it around their crayon to create a custom, unique souvenir. "Be A Star" uses green-screen technology to let guests become part of their own personalized coloring page, starring with whimsical crayon characters, which they may then print on paper, color, and take home. (Or print on a T-shirt, canvas or puzzle.)

There are also party rooms, so kids can share the experience with their friends, and a retail store, so they can take home what they need to keep creating memories after they leave. In homage to the original Crayola Factory in Easton, Pennsylvania, a "Crayon Factory" attraction shows guests how crayons are made, featuring whimsical Crayola characters and a live resident "Crayonologist" in a live theatre show.

Because it's Crayola

The Crayola Experience colors outside the lines, making an attraction out of creativity itself. The corporation has not trusted simply to the power of its brand, but has sought the best possible way to leverage its dedication to creative inspiration while taking on the challenge to give the brand a new dimension.

Lozano is already predicting good things for the third Crayola Experience. "Because it's Crayola, guests know it's going to be fun, creative, and safe," she said. "We start with the basis of a lot of good things, that they already know because it's Crayola. It's

a hands-on attraction: 25 hands-on creative attractions and experiences. It's an attraction that is not a passive, 'watch me' sort of setup. Guests realize, 'I get to go and I get to have lots of fun, and do creative things. It's a good experience for my family. Sign me up!"

Crayola is a brand that brings back fond memories of childhood. Whether it is a piece of art hanging on the refrigerator door, the unique smell of a fresh box of crayons, or one's first memories of creating something from scratch - out of nothing but imagination and drive - many adults can't help but reminisce about their first contact with a simple, colorful, powerful crayon. •••

David Green is president and CFO of Visual Terrain, which is celebrating 20+ years of lighting design for architecture, attractions and the arts. He is the co-author with Steve Alcorn of "Building a Better Mouse: The Story of the Electronic Imagineers Who Designed Epcot," which was based on their real-life experience at WED Enterprises in the early 1980s.

More InPark coverage of the first Crayola Experience can be found at http://www.inparkmagazine.com/photos-grand-opening-of-the-crayola-experience/ and http://www.inparkmagazine.com/from-easton-to-orlando-crayola-redraws-the-brand-land-experience/.





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The built and the virtual become one

VR and projection mapping alter rides, parks and experiences

interviews by Joe Kleiman

With virtual reality (VR) now being added to the roller coaster experience and projection mapping altering the nighttime landscape, InPark called on leaders in ride technology, AV media and technical system design to discuss the future of media-based experiences. Participating were Benoit Coronet of Alterface Projects, Brian Edwards and Roberta Perry of Edwards Technologies, Christian Martin of Triotech, Stephan Villet of Smart Monkeys, and Stuart Hetherington of Holovis.

One of the latest innovations is the integration of VR with roller coasters. Passengers don headsets in addition to fastening their harnesses. Where do you see that going?

Martin: VR is definitely an up-and-coming technology that is gaining lots of momentum across several applications across several industries. For our industry, the challenges are of operational nature. For instance, health and safety as well as throughput. Can the technology be adapted to surmount these obstacles?

VR can enhance an experience. However whether it can enhance a ride experience is a different question. It is important to realize that it is a trade-off in the sense that most, if not all, ride experiences are also group experiences.

Coronet: I find Oculus Rift a little disturbing. A roller coaster is designed for emotions. When you're using VR, you're transforming a coaster into a virtual coaster, which isn't needed. It's not really an interactive experience, it's more of a media experience. What is its purpose? Oculus can go into any simulator and create the feeling of any coaster.

Perry: The difference between a coaster and a simulator is that a simulator is very jerky while a coaster tends to be much smoother. I could see this kind of technology being used with certain IP [intellectual property], such as flying through the world of Avatar, so the glasses would create the visual world around you while the coaster gives you the natural physical experience.

Villet: VR on rides can be very challenging. We have the same kind of discussion regarding multimedia in public spaces. How immersive can it be? How personal? If it's too personal in the public space, people become too uncomfortable. People sit together in an attraction, then, with VR, they're physically separated into their own world. This could work in a motion simulator, where people don't care who's sitting to their side. But the idea of bringing VR on-ride might become an innovation that would appeal to riders.

Hetherington: VR headsets being deployed on coasters still has a lot of issues to resolve - safety, hygiene and the actual experience itself. This week we've been at the Digital Hollywood conference in LA discussing the latest VR tech and looking at the latest innovations around its use. There are still issues with latency, resolution and form factor standards, but the potential is huge because people can see how transformative VR can be to the experience. We have several development projects of our own underway and are following the MACK experiment [Europa-Park recently introduced a roller coaster integrating VR] with some interest. In the next few years you'll see a lot more experimentation. Check out The Void for another interesting version, a whole VR theme park which just soft launched in Utah.

Is your firm working on VR projects of its own?

Hetherington: Something we have been doing for over 18 months is using VR for ride design, development and testing. Our RideView™ system gives a full 1:1 scale Volumatic 3D realized version of your ride with peel-able layers of functionality and detail, allowing designers, ride engineers, and creatives to look at any aspect of the ride in virtual 3D space. At EAS last month we launched Pocket RideView™ which takes our CAVE experience and puts it onto tablets, phones and HMDs, allowing mobile team based collaboration to take place, on or off the project site. Suggested changes can be made to the master model and the team synched to the latest version, all in real-time. Recently a full sightline analysis was done in this way with very effective results. The review loop process is now incredibly fast.

Coronet: Work is done every day with new ways to interact. What is important is that the experience provided is specific to the ride and the park. We avoid technology easily found at home. The social dimension is very important. People like to interact together. In our first theaters back in 2006 we made sure the light did not dim so people could see each other. Leaving moments for people to talk and share with each other is important. It is crucial in the long run for success. Otherwise, it's just a shaking machine.

We believe that socialization is an aspect that defines the amusement park. People go together in groups and on rides. The MACK coaster in Liseberg (Helix) has a vehicle that is open and people can see each other, talk to each other, and express emotions to each other. To incorporate VR into that type of ride, we would need to figure out how to make it a shared experience. It must be lasting and not be solitary.

Perry: We are currently working on a VR attraction where, after a preshow, you enter a room where you put on a headset and it takes the community you're in and expands it by adding it to a larger community. Since this is an attraction, we can play with environmental audio, scents, and other factors within the show space to supplement the VR.

Edwards: We've found the VR experience is much different than a dome experience. In a dome, or a sphere, you might be surrounded by the image. But with a VR headset, that sphere becomes much smaller so that it surrounds only you. You're 1:1 with the world. VR also gives us the opportunity to personalize the experience for age, likes, and dislikes.

Perry: The big problem we've seen is that it can be a bit jarring when you remove the headsets and reenter the real world, but we're working on a solution.

Is projection mapping a viable alternative to VR for an existing ride experience?

Edwards: Projection mapping could be used on coasters, either with screens at night or indoors, and the projection could be changed so that you get a different experience each time. But you have to be careful. Disney did a great job with Space Mountain, but it's not too detailed because when the lights are turned on, all you see is the support structure – it gets in the way. So on a ride like that, VR would be better than projection mapping, but VR would probably work much better on a slower ride than on a fast coaster.

Villet: Projection mapping is one way to integrate media into architecture. It can go in different ways, but the point is to blend media into architecture. It brings the architecture alive, with the ability to change on the fly and in real time. It does not work

so well on sunny days outdoors. But the idea to change architecture outdoors is exciting.

What other ways are you working on to creatively change interactivity or media experiences?

Hetherington: We have developed a platform called InterAct™ a new, proprietary shooting system which will be part of Crimson Wing, an interactive 3D dome experience launching to the industry at IAAPA Orlando this year. Traditionally interactive experiences at theme parks haven't taken place in dome structures due to the complexity of accurately mapping across the curved surface. We are now taking this to the next level by wrapping people in volumetric 3D, with a purposedesigned, highly engaging multi-level story, and involving compelling interactive game play.

Martin: Triotech's Maestro™ Hand Gesture Technology, to be used on LEGOLAND's new Ninjago rides, will revolutionize interactive attractions by removing the need for a gun-like device. Through R&D efforts we are looking at several enhancements for digital interactive dark rides and other attractions.

Villet: We're more about a nice integration of elements rather than resolution and quality. There's a magical effect when you're not seeing the blending between architecture and image. Technically, this is what we have been doing - architectural entertainment. We're currently working on a simple, small project for a mall. LED screens are fully embedded in a brick chimney. We worked with the architect to make sure the content is replicating the actual building material. But the content on our screen moves. It's very simple, but the effect is really moving.

Coronet: We have been working hard on enhancing our technology. This year at IAAPA we will show four different applications of our tracking software not involving shooting. We're expanding beyond simple use of a gun into more of an interactive device.

Edwards: We continue to work on a number of technologies and applications. Personalization is something we're addressing in both in VR and non-VR applications. Especially since everything is now driven by phones, tablets, etc. We also are expanding our Videro cloud-based applications and hardware, and even our VR attraction will be powered by Videro. •••



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Fusing waterslides with art

Polin's new waterslide product supports design and theming in new ways by Martin Palicki

Polin Waterparks has occupied a special niche in the composites industry for four decades. Originally producing fiberglass composites for the construction industry, the company evolved within a few years to serving the leisure and waterslide markets. "We quickly became experts in fiberglass composites," explains Dr. Baris Pakis, President of Polin Waterparks. A composite material, of course, is a compound of two or more materials that have different properties, and that combined produce something with characteristics differing from either component – possibly stronger, lighter, more flexible, more cost effective, supporting new aesthetic applications, etc.

Automotive/transportation, aerospace, pipe and tank and wind are among the dominant markets for composites, according to the American Composites Manufacturers Association (ACMA). Like waterparks, those industries demand composite materials and products that are robust and reliable. Sometimes they also fulfill aesthetic demands. For waterparks the aesthetic and functional factors are both essential. Slides are often the focal point of a waterpark and they are the dominant component of the entire guest experience. It is very important that slides keep their eye appeal for as long as possible. And like all entertainment products, continual reinvestment and research & development (R&D) are required in order to remain competitive and turn out new products that enable the parks themselves to remain competitive.



Şöhret PakişPolin Waterparks

Polin's R&D backbone consists of more than 55 engineers in three sub-departments focusing on composites, hydromechanical systems and product design. Polin's latest innovation, being introduced at the 2015 IAAPA Attractions Expo in Orlando, is a line of waterslides that uses the company's Resin-Transfer Molding (RTM) technology, expertise and knowhow to give park owners and designers new ways to integrate slides into the theme of their facilities, with the ability to embed patterns and designs into the composite material. IPM Editor Martin Palicki talked with Şöhret Pakiş, Director of Marketing and Communications, to find out more about the the new product line, which she says "will change the way waterslides are themed forever more."

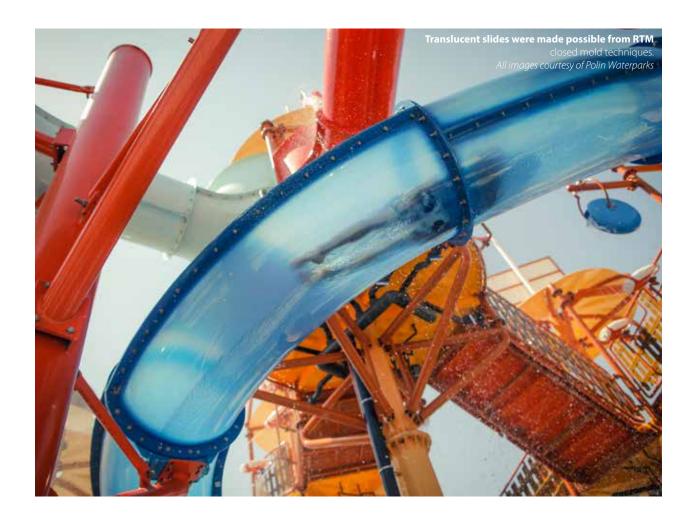
How do you describe this line of waterslides?

This technology innovation turns waterslides into genuine works of art with both interior and exterior designs – fully embedded into the production of the slides. With the industry focusing on theming and story telling more and more, this line will help both the designers and the water park owners.

Tell us about the technological innovation that allowed this product to develop.

Our Resin-Transfer Molding (RTM) technology, first introduced nine years ago, marked a milestone that enabled us to offer superior quality waterslides both aesthetically and physically in less time with less waste. Their immediate popularity encouraged us to continue our R&D which has resulted in being able to offer translucent RTM waterslides and our patented Natural Light Effects (NLE) and Special Pattern Effects (SPE) as well.

We have used our experience and know-how to our advantage in waterslides like King Cobra, which has a complex snake pattern embedded into the slide. We are now expanding that into a whole line of artistic themes that can fit into a wide range of park themes to enhance the storytelling.



What makes RTM technology special?

RTM (ResinTransfer Molding, which is a closed molded composites manufacturing technology) manufactured waterslides create attractive slides with a perfectly smooth and shiny finish on both sides. But it is not only about the look. Through RTM waterslide manufacturing technology, the slides are more durable and can be made faster and with less waste. Today the whole industry is moving towards closed molding. This leading technology has now displaced the former traditional manufacturing methods.

Polin has been a pioneer in the advancement and application of the RTM process in waterslide manufacturing. We converted to RTM in 2006 and today Polin is the only waterslide supplier in the world that offers its entire line as RTM manufactured.

What inspired you to create this line of slides?

It was not only inspiration, but hard research. Our focus has always been what the client wants, but we also care what the actual guests want. We pay close attention to feedback from our clients and their park guests. We create rides based on actual research into what guests want. Social media has been incredibly helpful in allowing us to gauge how guests respond

to our attractions. Essentially, that means the guests themselves are now helping to shape our waterslide designs.

After creating King Cobra and different themes of the ride (e.g. the Humangaslide version), we saw how important it is to incorporate theming. For example, the Cartoon Network Amazone Project won the Leading Edge Award from the World Waterpark Association (WWA) last year. Every waterslide in that project is themed - each attraction reflects a character from the Cartoon Network animation series, such as Ben10, Johnny Bravo, and Power Puff Girls.

Customers want the parks they visit, and the rides in the parks, to tell them stories. This new product line supports ever more elaborate and customized storytelling and theming. For example, in a waterpark where the concept is a rustic outdoors environment, the Wood'n Slide would enhance that theme and storyline. It is fiberglass composite but it does look like real wood. Since it will blend in with the theme, designers don't need to worry about hiding or masking the slide behind other scenery or props.

What artistic themes did you develop?

We created seven new design options that can be customized and enhanced for each specific project:

- Graffiti The design application includes customizable, hand-drawn, exclusive illustrations that create a strong and unique visual impact. All Graffiti designs are tailor-made to a park's theme.
- Mosaic This option reflects the Italian art of tesserae –
 a design technique in which individual tiles form the
 shape of a cube. But unlike actual tesserae, Polin's
 version is one solid piece of design and is available in
 a wide range of colors.
- Triangulated The three-dimensional, embossed surface
 of this option reflects light much like a solid prism. The
 unique geometrical shapes of this design create truly
 artistic theming options.
- Wood 'n Slide This option provides an astonishingly realistic wooden finish in a variety of wood veneer options.
- *Reflection* The visual appeal of high-tech facades are created from the metallic colors applied to this offering. Shiny, reflective and glossy surface finishes are available in gold, silver, copper and platinum.
- Honey Comb Similar to the Triangulated option, this specialty pattern is cut and applied to Polin's slide components to create a honey-comb appearance. A large number of metal patterns can be created from this option.
- Slide 'n Roll This new offering combines all of Polin's exclusive technologies unique sound, lighting and design special effects into one slide to create an experience that fulfills the full range of sensory stimuli for guests. (continued on page 24)



Celebrating 40 years of Polin

Polin has been doing things with the same energy and enthusiasm for 40 years. Committed to safety and passionate about design, they have grown from a family business into a global leader, with 2500 waterpark projects in 93 countries worldwide. Over time, their passion became their profession.

"We understand that every element within the waterpark matters," says Şöhret Pakiş. "We work to deliver a unique experience for each of our clients through an attention to detail and a desire for perfection."

To celebrate their 40th anniversary, Polin created a new logo. According to Pakiş, the logo reflects Polin's evolving business and vision. "It is inspired by the products we are so passionate about," says Pakiş. "The logo represents a bird's eye view of a spiraling waterslide in the shape of our company's initials. And while our logo has changed, our passion and desire remains the same: to innovate and exhilarate."

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Polin's history of innovation

For 40 years, Polin has been innovating in the waterpark industry:

1976: Founded by architect Enver Pakiş as a composites design and manufacturing company

1980: Began designing and manufacturing unique products for the tourism and leisure industry

1989: Started manufacturing waterslides

1999: Received TUV quality certification for waterslides

2003: Earned ISO 9001 certification

2006: Developed a state-of-the-art closed-molded RTM waterslide manufacturing process

2007: Createed an advanced translucent RTM technology

2008: Debuted new sliding experiences with Natural Light Effects and Special Pattern Effects

2010: Launched the groundbreaking King Cobra attraction with built-in theming and an integrated storyline

2011: Launched Racer Hybrid and Space Shuttle waterslides

2012: Designed the Magic Sphere and Spheres experience to enhance the thrill-factor of slides

2013: Created a new generation of water-play structures that feature enriched experiences by incorporating interactivity, new construction techniques, and themed elements

2014: Createed Natural Sound Effects technology to introduce sounds and music to waterslides

2015: Designs new line of artist-inspired highly-themed slide themes and styles

Can you explain more about the special effects you can integrate into slides?

We offer Natural Light Effects, Special Pattern Effects, Translucent Patterns and Natural Sound Effects. Natural Light Effects are a special, patented process that we employ during the manufacturing of tunnel-type fiberglass waterslide components. As the sun shines through the slide's fiberglass sides and interacts with the flow of water it creates colorful designs that continually change depending on the angle and strength of the sunlight. Both riders inside the slides and viewers on the ground can enjoy the dynamic experience as lighting changes throughout the day.

Natural Sound Effects technology turns our waterslides into giant, passive speakers that naturally amplify sound through the entire tube. Tactile transducers (also called bass shakers) incorporated into the system transmit a low-frequency vibration onto a surface – in this case, our waterslide tubes – so that the vibrations turn into sound and can be heard by riders as they travel through the slide.

Where can people see examples of the new product line?

During the IAAPA Expo we will be hosting an "art gallery" featuring samples from the new product line. Visit us at booth 4239 from November 16-20, 2015. •••





More on Polin

Polin was founded in Istanbul in 1976 and has since grown into one of the world leaders in the design, production and installation of waterparks, waterslides and water-play attractions. The company has completed 2,500 waterpark projects in more than 93 countries around the world and grown into the largest waterslide supplier in Eurasia. For more information, visit us at our newly designed website, **www.polin.com.tr.**

Polin today is a signature waterslide designer of

- King Cobra[®] ("Best Waterslide of Europe" Award 2012-2013-2014-2015 and "Most Innovative Product" Award 2013)
- Dragero®
- Magic Sphere®
- Space Shuttle®
- Spheres[®]
- Sphere Combo ("Best Waterslide of Europe" Award 2014-2015)
- Windigo ("Best Italian Waterpark Attraction" Award 2008)
- Surf Safari (Best Waterslide of Europe Award 2015)
- Racer Series
- Space Race and more...

Globally signature waterpark supplier of

- Aspro Group
- Aqualand
- Looping
- Cartoon Network
- Carnival Cruise Lines
- Cowabunga Bay
- Six Flags
- Gural Hotels
- Crystal Hotels
- Berjaya Hotels

- MSC Cruise Lines
- Palace Entertainment
- Parques Reunidos
- Voyage Hotels
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- Campings Franceloc
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- Hilton Hotels
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- Polin China
- Polin Macedonia & Montenegro
- FuturaForm Composites





The Network

The era of non-propietary AV and show control systems

by Maris J. Ensing, Mad Systems

ost, speed and reliability of PCs have reached the point where AV and systems integrators for themed entertainment, educational attractions and special venues can rely on them to do just about anything that needs to be done.

Instead of using a show controller, audio playback devices, video playback devices, lighting controllers and specialist laser and/or motion base controllers, we can just dedicate one or more PCs to handle most if not all of these tasks. Sometimes everything can be done by one single PC, and sometimes it's easier to use multiple devices to keep some separation between the various functions but more and more we're seeing one device capable of handling an entire show, including lighting, video, audio and a host of other devices. One major benefit to this approach is that it reduces the number of different spares needed as backups for these systems.

The obvious exception to this is safety systems. Whenever a system controls a moving exhibit such as a flight simulator, a PLC (programmable logic controller) based safety interface system that can override whatever the computers in the system might want to do is an essential ingredient. This logic controller would be set up as an independent override that can handle anything that visitors or computers could throw at them in a safety supervisory capacity with independent sensors and overrides.

With certain exceptions, the development of the PC has taken us to the foreseeable end of custom-built AV systems. (continued on page 28)



Maris J. EnsingMad Systems

You've come a long way, AV

Special venue audiovisual systems have pretty much always been non-standard, requiring custom engineering touches usually because of the specialist equipment and interface that made up these electronic control and content delivery systems. These one-off systems performed very specific tasks - initially with mostly hardware and then with hardware and firmware that provided a very specific set of functions.

A non-AV engineer or technician would have to spend some effort to work out what was needed to run such an AV system, and there was a distinct difference between typical electronic systems and communication protocols and those used to control AV systems. I remember looking at my first AV system in the early 1980s while visiting a client in Germany on an aerospace project. The techniques they were using at the time involved slide projectors and slide projector controllers.

Early computers, including the Apple II series, were used with great success to perform basic control functions. But because of how expensive they were at the time, they were selectively used, often only for master control of individual shows. Peripherals were designed to handle output contacts and voltages, again mostly specifically for show control. With the addition of time code interfaces, it was possible to synchronize these show controllers with audio tape machines and film projectors (remember visual time code?), and AV systems were designed by AV engineers for use by AV staff.

As the PC and its equivalents evolved, they reached a point where they were capable of handling much of the functionality of AV systems. Around 1985, some of us were already seriously looking at their control system abilities and discovered we could use them to control anything from initially small to ever expanding systems. A number of people were also experimenting with recording and playing back audio from PCs, although initially it didn't catch on because the machines, along with memory and disk space, were much more expensive at the time, and reliability was an issue.

With dropping hardware costs, it became more and more reasonable to look at PCs to take on more of the tasks previously allotted to specialized AV equipment. Initially, PCs started to be used to replay mono and stereo audio, and then multi-channel audio or randomizing multi-track audio presentations (such as simulations of a forest or city). Much later PCs also started being used to store and replay video, although it took some time for memory and storage to become cheap and fast enough to take on these tasks.

PCs also took on tasks that previously had been the domain of expensive lighting and audio mixers. They have become

more and more an obvious mainstream choice for a very wide range of tasks including overall show control, audio and video playback, animation, ride control including software controlled feedback loops for 3- and 6-DOF flight simulators, interactive exhibits both visual and electromechanical, and a host of other devices and functions.

Although there is still purpose-built hardware out there to do some of these tasks, specifically in conference rooms and board rooms, it is clear that there is hardly any need for this expensive custom equipment any longer. PCs with industrial grade peripherals and user interfaces in the form of smart phones and various low cost smart pads are more than capable of providing all the facilities offered by these remaining vestiges of the old quard.



The essence of a computer based AV system is that the hardware is mostly non-proprietary, something that uses rather more commonly available equipment, and allows for non-AV specialists to look after the hardware and software. It's a lot easier to find a competent computer user than it is to find (and keep!) a competent AV technician. If one of the computers goes down, it will not be hard to just replace it with a new unit, and in most places in the world it would be a lot easier to replace a computer rather than a piece of AV specific kit that would have to be ordered and shipped from the manufacturer, often many time zones and even more miles away. There are not many places where you cannot get hold of a replacement PC at short notice, although quite frankly the days of regular PC hardware problems are pretty well over, especially now that we're fitting more and more solid state drive components, and the only moving parts remaining for now are the fans to keep things cool on high performance machines. With storage as cheap as it is, it's possible to do complete backups of all the machines in the system and store it in multiple locations - you could consider keeping a drive online for rapid access, one offline in safe storage in another building, and a copy in the cloud so that someone else is looking after the hardware to keep your precious data safe and alive.

There is another major benefit - networking is now easy, and cheap. AV systems are a lot like IT systems, in that just about all of the major components in a system can be networked so that we can control a lot of functionality remotely from our office, and we can also do status checks. Equipment components can communicate with one another over the network - and in fact one of the biggest arguments we normally have with clients is to ensure that the AV network is not part of the office network as we need to predict the amount of network traffic to guarantee system behavior, and because we really don't want the office staff to be able to modify the content of the video masters.

Another huge benefit of non-proprietary systems, such as Mad has mostly designed and implemented for the past 15 years or so, is that the underlying computer technology allows us to provide remote support and even remote training of new staff. Being able to log into a remote network is pretty well a standard thing that we'd expect to be able to do no matter where our installations are - asking a client to provide us with a dedicated internet link for the AV system rarely raises an eyebrow, especially when they realize that no matter where they are, we are happy to provide a very high and usually pretty well immediate support system. This in turn has allowed us to support clients quickly over past years - even with older systems - so that when a client calls, we can usually be on their system checking things for them on the rare occasion that help is needed, faster than it would take to get a technician to drive across town. This also means that maintenance costs are a lot lower - and reality is, that we've supported clients mostly without charge for helping them out as help is needed - after all, it usually only takes one of us half an hour or so to have a quick look at a system to diagnose something that might be going on, change the volume level of something, or just give a recommendation for a replacement piece of equipment.

Non-proprietary systems, something we've urged our clients to consider for many years, are here, and they're here to stay. Our AV engineers and technicians still need special knowledge to design them, build them and get them installed into the field - but their skills are a lot closer aligned to those of IT staff, so that transfer of specialist knowledge is easier to handle, and we can leave our clients with systems that are easier for them to understand and manage, and cheaper to maintain. It's a good thing. •••

Maris Ensing is CEO of Mad Systems Inc., (www.madsystems.com), a technology company whose specialties include audiovisual systems integration, interactive design and implementation, project management, consultancy, 3D/4D theaters, and board rooms. Mad Systems clients include museums, theme parks, visitor centers, corporations, retail, and restaurants.





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The Hunger Games

AV interactive technology immerses visitors into The Hunger Games: The Exhibition

Following the huge worldwide success of the blockbuster *Hunger Games* movie franchise, Lionsgate's *The Hunger Games: The Exhibition* has opened its global tour at Discovery Times Square, New York City. Electrosonic engineered, supplied and integrated the audio-visual systems for the 12,000 squarefoot exhibition whose costumes, props, set recreations and interactive experiences deliver a dynamic fan experience.

The Hunger Games: The Exhibition will have a six-month run at Discovery Times Square before moving to San Francisco's Palace of Fine Arts in February 2016. The exhibition comprises seven galleries telling the story of Katniss's epic journey from tribute to revolutionary. Lionsgate created the exhibition in close collaboration with the Thinkwell Group and produced it in partnership with Imagine Exhibitions.

Electrosonic met the dual challenges of a rapid production schedule coupled with the need to engineer and fabricate the exhibition as a touring system to be set up in multiple venues over the years.

"This is a traveling show so it was designed to be modular," says Electrosonic Project Manager, Steve Calver. "Our support for the exhibition is not unlike what we do for permanent exhibitions but with a different form factor. There are 18 rolling equipment road rack cases plus another 40 robust rolling road cases for show control, interactivity and sound distribution. Everything is designed and packaged for quick set up and tear down while maintaining simple and reliable connectivity. For example, Jan-Al designed custom cases for all the speakers so they could be packed with their mounts attached."

"We've done a lot of traveling shows," notes Electrosonic Show Systems Engineer, Will Guest. "They are like enormous interactive puzzles. Putting the show together is a show in itself, but we have given the exhibition the tools and features to make installation easy. *The Hunger Games: The Exhibition* was a more complex traveling show than usual, but it came together quickly thanks to all the participants. It was a fun, creative show to work on."

Electrosonic's involvement in the exhibition begins with the preshow queue area where the Hall of Justice façade is projection mapped onto a three-dimensional set piece, which becomes the entry to the District 12 gallery. Panasonic projectors with ultra short-throw reverse lenses sit side by side to warp the architectural imagery onto the set piece. A 7th Sense server, in mesh mode, aligns 3D CAD files of the architecture



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onto the dimensional surface of the set. Electrosonic provided mock-ups and consultation for the projection mapping system prior to installation.

Once inside the District 12 gallery, visitors are introduced to Panem. A stylized interactive map, with an "Easter egg" that displays the hidden District 13, takes the form of a 55-inch CyberTouch touchtable in a custom enclosure.

Visitors board the luxurious Tribute Train to see numerous props and artifacts from the films. Electrosonic created the audio environment for the soundscape. A QSC Q-LAN system performs the digital audio playback; QSC speakers are mounted in overhead truss as well as in the train car's set pieces.

In The Capitol gallery, Electrosonic facilitated the magic of the interactive Cinna's Sketchbook. A Panasonic projector pointing straight down onto the pages of the book displays illustrations, text and video content that appear and disappear as visitors turn the pages.

Making the Games explores the art and science behind *The Hunger Games*. Visitors get to test their stunt skills in front of a centrally-placed 40" Samsung monitor, with two 65-inch Samsung monitors on either side, hung in portrait mode. A stunt coordinator shown on the monitors performs a move seen in *The Hunger Games*, and then visitors try to replicate it; Microsoft

Kinect compares an image of the visitors' movements to those of the stunt coordinator. The exhibit is powered by custom NLE Systems computers.

In the same gallery, a large interactive Gamemakers' Table offers eight positions featuring touchscreen monitors powered by small form factor Polywell computers.

Visitors get to be filmmakers themselves in the District 13 gallery. Electrosonic installed four kiosks with 22-inch Samsung monitors and touch interfaces where visitors can edit their own short propaganda film or 'propo.' Rosco flat LED panels provide illumination for the photo shoots.

The gallery documenting Katniss's Journey features two 4x8-foot Stewart film screens wall mounted in portrait mode displaying iconic scenes of *The Hunger Games* franchise. Electrosonic provided Christie DWU555-GS projectors that use laser phosphor illumination so they could be mounted on their sides to show the overhead imagery.

Additional equipment provided by Electrosonic for the exhibition includes two Medialon Showmaster LE show control units, Elliot custom speaker mounts, Chief monitor mounts, BrightSign players, Extron extenders, Motion Labs power distribution and TMB theatrical-performance cabling. •••

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The Hybrid Slide thrills guests at a yacht club. *Photo courtesy of Freestyle Slides*

Temporary park, permanent fun

Inflatable slides set to bring new thrills to a pop-up park

by Martin Palicki

pon hearing 'inflatable slides,' people's minds typically wander to the bounce house rentals that have been popular at community events and birthday parties. Although they come in many different shapes, sizes and themes they are all essentially built upon the same kid-friendly concept.

FreeStyle Slides has been expanding that concept of an inflatable slide that appeals to adults as well. "We wanted to create inflatables that deliver the same thrills as permanent, state of the art, amusement park rides," says Stephen Philp, owner and founder of FreeStyle Slides.

The concept has caught on and in the first week of December, a 'pop-up' water park is set to open in Perth, Australia. "Xscape at the City is only temporary, but we want the adrenaline and thrills to last a lifetime," explains Nasir David, president of Perth-based Amusement Leisure Consultants, which conceived the project. Amusement Leisure Consultants turned to FreeStyle Slides to help with the park, as they had already created the world's tallest drop slide, called the FreeStyle Hybrid Slide.

The Hybrid Slide was developed two years ago. The slide is versatile - it can be attached to an existing building, or freestanding structure, and can be moved from location to location. It is designed to run into existing bodies of water, man made reservoirs, or FreeStyle's inflatable extension run out and landing bed.

The Hybrid Slide made its first public appearance at the Yacht Club de Monaco and has been a popular addition to Yacht Club events, from sailing races to the reception of the Royal Wedding that took place a few months ago.

Both David and Philp felt the park needed a unique ride - and so, using the Hybrid design, a team of engineers from FreeStyle created an even taller version of the original Hybrid - a slide that rises to 76 feet (22 meters). This temporary structure will stand taller than all of the other attractions at the park. David and Philp hope this will earn the Hybrid Slide a Guinness World Record for 'World's Tallest Inflatable Water Slide.' (There is currently no official record holder for the title.)

The park will also feature Trippo XL - a super sized version of FreeStyle's Trippo Slide, which can be found at beach resorts such as TradeWinds in St. Petersburg, FL, and Lake Rudolph Campground & RV Resort in Santa Claus, IN. •••

For more information on the water park in Australia, or any of FreeStyle Slides products, visit their booth at IAAPA (#1332), visit www.freestyleslides.com, or email info@freestyleslides.com.



Three is a magic number

Walker, Haimson and Emerick bring a new strategy to Dynamic Attractions

by Martin Palicki & Judith Rubin

ynamic Attractions, known for delivering world-class ride systems, has announced a bold strategy to provide an innovative concept called Unlimited Attractions™ to its clients around the globe. It's a strategy that the company expects will take them a giant leap forward, offering new capabilities, a new facility, and a talented new leadership team. The trio of George Walker, VP Creative Development, Michael Haimson, VP Technical Development, and Cindy Emerick, VP Business Development, are leading a new division of the company that will augment Dynamic's established engineering prowess with the ability to execute every level of fully integrated and comprehensive attraction design. "We now have the ability to craft large-scale immersive attractions from start to finish," said Walker. "The combination of our team's experience in storytelling, engineering, and business development brings a powerful synergy to this company."

Dynamic Attractions President and CEO, Guy Nelson, who is also CEO of Dynamic's parent company Empire Industries, is enthusiastic about his dynamic trio and the three-pronged approach of creative, tech and business development. "With this new team I feel I have covered all sides of the triangle in-house. Creatively, we can now deliver the story that wraps around the ride system. Technically, we can now bridge the story with the engineering and technical design that turns it from a ride into an attraction. And through business development, our clients can be sure that the project promised is the project delivered."

This "triangle" philosophy runs deep with the new Dynamic division. "The triangle represents our three-sided approach and applies in many ways," Haimson said. "It references time/budget/quality, show/ride/integration, and client/vendor/guest. Even our conference room table is triangular because this allows for the best balance between screen, presenter and

audience." Haimson recently joined Dynamic, armed with a deep background in technical wizardry, including R&D at Bell Labs, and award winning attraction design at the former lwerks Entertainment (now SimEx-lwerks).

"Unlimited Attractions"

The new division is implementing a concept Dynamic calls Unlimited Attractions™. "We are literally saying that our services are unlimited," Emerick said. "We take a very pragmatic, openbook approach to ensure that our clients understand all that we offer, and can then choose to engage us for as much as makes sense for the project - which now includes the show elements." Emerick has been with Dynamic Attractions for four years. Her previous experience includes managing and engineering major attractions including the Mummy for Universal Studios, and The Italian Job for Paramount Parks. "Building complex attractions is a complex process because of all the integration between the show and the ride," she said. "We saw an opportunity at Dynamic to do things differently, and deal with that complex process in a compelling new way."

"We are moving away from the concept of a 'turnkey attraction," says Walker. "We feel the concept of an unlimited attraction more accurately represents the breadth of possibilities we offer to our clients." Walker is transitioning from nearly three years with Farah Leisure as he completes his role as Creative Director overseeing the expansion of Ferrari World Abu Dhabi. Referring to himself as a "storybuilder," he has worked for design firms, on Universal Studios projects, and recently Disney's Cars Land.

Dynamic Attractions Development Center

Mounted over the door in a business complex near the Florida Mall in Orlando is a new sign draped in red fabric, like a gift waiting to be unwrapped. Beneath the drape, the sign identifies the new Dynamic Attractions Development Center. "This center is the part of the new strategy that we are most excited about," Walker said. "We will be constantly cooking up top-secret, cutting-edge ideas inside. It's the theme design equivalent of Willy Wonka's Chocolate Factory. We wanted to create a place where ideas become more than just drawings on paper or words on a page; a place that isn't just about dreaming up new ideas, but is about developing them into reality; a place of prototypes where experiences are invented, concepts are mocked up, and emotions are evoked."

But also like the Chocolate Factory, most people will never see the inside of these walls as much of what goes on inside will be confidential. "We are building in a degree of internal security measures," said Haimson, "so we can ensure our clients that the projects we develop for them will remain proprietary."



Dynamic Attractions begins to uncover their new strategy



Dynamic's Immersive Transporter attraction is enjoyed by guests in China



Flying over Hubei is the highest rated attraction in Wanda's Wuhan Movie Park



Clients won't be the only ones with secrets inside the box, however. "We are also inviting a very exclusive group of partner vendors to join us in this think-tank environment," said Emerick. "Dynamic's goal is to lead a developmental forum where their team's ideas and those of key, strategic partners, can be developed, tested, and prototyped into the next big thing."

The combination of the new Orlando facility with the expertise in Dynamic's core engineering and fabrication facilities in Vancouver, along with its joint venture fabrication facility in China, its parts and services division in Texas, its in-house talent and collaboration with other talent, and the strength of the company history, helps form the basis for Dynamic's executive team to feel that their use of the term 'unlimited' will be justified.

Building on a Dynamic foundation

What drew the new executive team to Dynamic? According to Walker, a combination of resources, structure, culture and longevity. "Dynamic is so much more than just a rented office and a web page. As a publicly-traded company with hundreds of employees and huge facilities, this is a classic brick-and-mortar establishment with the stability and resources that we knew would allow us to really do this right and begin to offer all the show elements that turn a ride system into an attraction," he

said. Walker's excitement over the new venture is such that he ties his necktie in a unique trinity knot whose triangular shape intentionally echoes the company's 3-sided strategies.

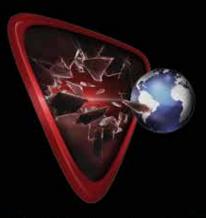
Emerick, who has been with the company the longest, recognized the potential early on. "Dynamic's deep ranks of engineers and technicians come from a variety of advanced industries. Through these relationships we also have special access to an array of exceptional vendors with highly innovative technology that few others can offer," she said. "Dynamic has a strong base that will be the springboard to expand uniquely and to cultivate big ideas that we can now design, manage, and install, start to finish."

It is this base and history that are providing the foundation for the company's new plan.

"We have a new team, a new strategy, and a new facility," Nelson said proudly. "Dynamic Attractions means business. We believe the investment in this new division will strengthen our position as a cornerstone establishment in the industry, and allow us to deliver the entire attraction with all its show elements included, out of our new, Orlando facility." •••

Meet the Dynamic Attractions team at the IAAPA Expo in booth #1364 or online at www.dynamicattractions.com

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Visitors queue for the Eiffel Tower in Paris. Photo ©Alexandre Duret-Lutz, used with permission from the Creative Commons 2.0 Generic license

First impressions

The future of queue management

by Kevin Dazey

During the infamous Duff Gardens episode of The Simpsons Bart proclaims, "Hey man if the line is this long it's gotta be good." A moment later the gag is revealed: it's a two-hour wait for guests to register a complaint, only here apparently the employee insults the patrons!

In the real world, we hope a long line does in fact lead to a high-quality experience - instead of the above situation – otherwise, something is not right. If you enjoy amusement parks, waiting is inevitable and the benefits usually outweigh the cost. Nevertheless, from entering the park, to food & beverage, to rides, everyone can appreciate shorter or faster moving queues. Delays at the parking tolls or queuing at an entrance can be

frustrating without a quick access point, and that's even before your day at the park has really begun. And those first impressions can linger.

Don Eash, Gateway Ticketing Systems executive vice president and chief operating officer, expresses why entrance slowdowns should be avoided. "Numerous studies have shown that when guests stand in line at the beginning of an experience they are far less likely to have a positive experience throughout the day. So facilities are getting savvy in keeping lines down."

Not surprisingly, online or mobile ticket sales have been the largest contributor to streamlining the main gate experience,

with mobile ticketing likely to take over as the top method for ticket sales, as accesso's senior vice president of business development, TJ Christensen mentions. "Across our portfolio of clients we see attractions selling between 20 to 40 percent of the total tickets through e-commerce. Of that we're seeing mobile ticketing represent between 20 to 30 percent of online ticket sales in 2015, suggesting that we are quickly approaching a 'mobile majority.""

Admission bought before arrival eliminates the need to purchase on-site, and hopefully also subtracts one potential queue experience from the guest's day. Holiday World (Santa Claus, Indiana USA) favors this: park president Matt Eckert said, "We make a concerted effort to encourage our guests online by offering the very best discount available if they purchase tickets directly from our website."

Re-imagining the main gate

With or without turnstiles, staff is still required to assist, and guests must still stop and pause, for some means of validating entry. And in addition to changes that promote functionality and speed, operators have begun to redesign the main gate experience for a more affable welcome. Melinda Arvin, deputy chief sales & marketing of OmniTicket Network explains. "The

real advantage to removing turnstiles is that you remove both the physical and psychological barrier that the guest encounters when they arrive. The removal of turnstiles and the barrier promotes a more welcoming and engaging experience at the entry point for the guests."

Christensen offers a similar viewpoint. "Removing turnstiles isn't as much about efficiency as it is about enhancing the guest experience. Operators are always looking for new ways to make the arrival experience more welcoming. One way to achieve that is to replace the physical barriers that turnstiles create with personable staff to greet the guests as they arrive."

These incremental changes ideally all lead towards minimal or no queues at an entrance, improved efficiency, and customers retaining a happy frame of mind to begin their day.

Queuing for rides and retail

Big rides draw big crowds and that tends to mean lengthy waits, especially during a debut season for the latest record breaking roller coaster or innovative dark ride experience. There's something to be said about building excitement and anticipation, but what is the threshold? How many people are willing to sacrifice most of the day queuing for rides and





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attractions? Keeping crowds excited about attractions, while minimizing their queue time for the duration of a visit is an operational challenge. Perceived value is likely to go down when only half the attractions are experienced for a once-a-year trip, and guests can't spend money on games or merchandise when stuck in a 90-minute queue.

Speaking of retail, long lines for food and beverage or other purchases are also wearing on the guest and can leave a bad impression. "You want to get orders in ASAP, expedited and assembled as quickly as possible. The more you can provide self-service, the better," said Eash. Self-service can speed up the process and give the guest back some measure of control over their time. "This is why some places have you get your own soda. It keeps you distracted while they prepare your order."

Holiday World has benefited from this method for several years. "One of the benefits of our free, unlimited soft drinks program is the self-serve fountains," said Eckert. "Thirsty guests don't have to stand in food lines and hungry guests appreciate not having to wait while other quests' soft drink orders are filled."

Tools developed for park staff also contribute to swifter service. Ticketing systems can integrate food, drink, and retail functions. Arvin comments on OmniTicket's solutions for speedy service. "Our POS system plays an integral role in speeding up transactions in food and drink outlets since it allows the customization of the sales board to facilitate extremely quick sales. The POS screens can be set up to be intuitive and to allow quick and easy training for new staff."

Improving or shortening the wait

Parks can help the time in line pass more comfortably. Providing shade and cooling are basic. Elaborately themed indoor queues also offer climate control and can be attractions in themselves. Programming shown on in-queue TVs and engaging people via their smartphones can make standing around with 1,000 strangers a bit more tolerable and even promote social interaction. "The strategy is making the in line experience more engaging and interactive so it doesn't feel like you're spending time in line," said Eash. "We're seeing queue areas getting more extravagant by tying into mobile applications or games like a scavenger hunt."

Signboards and phone apps offering wait times are newer tools to aid a parkgoer's day, possibly directing crowd flow to attractions with shorter wait times. Communication about delays or sudden closures is always welcome too.

The use of reduced wait systems has become widespread. Professional sports, concerts, and theaters charge a premium for what's considered more of a premium experience, so why not at theme and amusement parks too? Perhaps it just

took longer to end up here due to origins of pay-per-ride at traditional amusement parks of long ago. These practices have altered queue management as much as anything else recently. Whatever the system may be called, the advertised benefits are the same: spend less time standing in line and enjoy more of your day.

VIP tours exist as well, but those are lower volume and would not have the same constant influence on the regular line. A few early queue management arrangements were no-cost including Disney's Fast Pass or Cedar Point's short lived FreeWay and Ticket to Ride. While Disney's systems have remained free since 1999, front of the line access can come at a hefty price. Many systems have multiple tiers and use dynamic pricing for busier days that can cost more than admission itself. Depending on the system utilized a guest earns the right to either jump in a shortened separate queue to bypass the regular line, or reserve a time for later while experiencing other rides, attractions, or shows.

Virtual queuing

accesso helped pioneer the virtual queue concept with the Qbot handheld device which is now joined by Qband designed for waterparks and Qsmart, which employs a guest's smartphone. Christensen points out the advantages or virtual queuing versus a front-of-the-line structure. "The beauty of virtual queuing is that striking that balance is much easier compared to 'front-of-the-line' programs found in many parks," he said. "The major difference being that, with virtual queuing the guest still waits to ride, just not in line. This allows the guests to ride another ride, shop or dine while they wait for their turn. More importantly this approach allows you to put more guests on the virtual queuing solution and achieve revenue goals that far exceed what a 'front-of-the-line' pass would yield."

Guests are obviously willing to take advantage of the service, but this does affect the regular or standby line (how greatly depends on the attraction type and overall capacity). Christensen points out that if too many priority passes are distributed, the benefit is lost for the service purchased. "If you're not careful, you can overallocate the passes and have a situation where on some rides the 'premium pass' guests are waiting as long as your standby quests."

On the other hand, if too many guests in the standby queue find themselves greatly affected in favor of virtual queue or front-of-the-line riders, multiple guests' experiences have been simultaneously diminished. Execution is certainly key regardless of the type of system used. Some are much more seamless than others (merge point vs. completely separate entrance).

Holiday World continues to buck the trend by not implementing a front of the line nor virtual queue system. "This is a concept we have continued to consciously not implement," said Eckert. "As

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long as we are operating efficiently and safely, we feel that virtual queuing would not fit in with the culture of our parks." Instead, Holiday World relies on its culture of service. "One of our Four Cornerstones is 'Service' and our Hosts and Hostesses take this very seriously," said Eckert. "They are trained and work diligently to keep lines moving, whether that is for an attraction, a game, a gift shop line or a food location."

A little hustle goes a long way

With or without a reduced wait offering, capacity also undoubtedly plays a role with queue management in such that swifter moving lines mean less overall waiting for everyone. If the overall goal is to make everyone wait less, then operating at a capacity fitting for a given crowd plays a major role in shaping the pace at which lines move. Not every ride can handle 2,000 guests per hour, but reach outputs near maximum theoretical capacity and a difference is noticed.

As a former ride host where meeting daily goals for throughput was expected, and still a very frequent visitor to theme parks, it's easy for me to notice when operations are not as smooth as they could be. Budget may be the reason when there is a

lack of staff or fewer ride vehicles are in operation, but a display of hustle and communication on the part of staff shows awareness of guest needs. That alone can make a huge difference in perception about the park's interest in keep crowds moving and guests happy. Broader use of single-rider lines and attempts to fill every seat for every cycle may not make huge dents in capacity, but the little things can start to add up when looking for long term permanent solutions – and again, guests will notice and feel better cared for.

Where does it go from here in regard to the longstanding obstruction of more people waiting than attractions can handle? What if you could purchase front-of-the-line access for only a few rides, a la carte? Is this the solution? Eash thinks so. "It's already happening. We have the technology that allows us to do that through our Galaxy® software today where you can buy an express pass for that one attraction. It could be that you go to a ride and scan a code with your phone. The sales process is now portable to the guest. This is definitely the way things are going. Handheld technology is now an extension of us as individuals and this trend won't diminish."

Handheld devices will likely be part of the equation for another interesting model. A few trials have already occurred where the standby line was eliminated leaving reservation-based queuing the sole option. This could well be a sign of things to come if successful. If it means reduced or no waiting and more attractions experienced

then it's a win for operators and guests. As long as attraction and ride designers continue introducing new ways to thrill and entertain, which I think won't stop anytime soon, then new approaches for reducing queues are around the next turn as well. •••

Kevin Dazey has a mechanical engineering background and works in R&D at a manufacturing company in St. Louis, MO. His passion for roller coasters and amusement parks began early on while growing up in northeast Ohio near Sea World, Geauga Lake, Cedar Point, and Kennywood. To date, he has visited 41 parks and ridden 235 roller coasters. Besides a fondness for



the attractions industry Kevin enjoys maintaining a collection of vintage motorcycles and ATVs. Kevin Dazey is attending the IAAPA Attractions Expo. Email: dazey200x@yahoo.com

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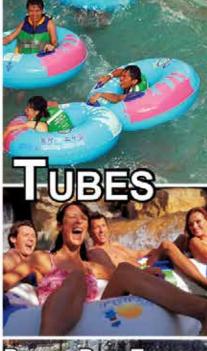
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A well-oiled process

Media producer Don MacBain tapped by JRA for museum project by Joe Kleiman and Judith Rubin

"A dream you dream alone is only a dream. A dream you dream together is reality." - Yoko Ono

Don MacBain's dream was always connected to movies. "My Dad worked for Mattel and he was the engineer on set during commercial shoots in case something happened to the toys. He'd bring me along, and I became fascinated with what went on behind the scenes, what makes things work."

That fascination led to a career in visual effects and film production – including commercials, giant screen films, and media-based attractions. At pretty much any point in his career, MacBain could be found working on or near the forefront of special venue cinema, whether analog or digital, flatscreen or dome, big screen or small, entertainment or education or corporate, 2D or 3D or even 4D. At this writing MacBain was just wrapping up a 15-month project with Jack Rouse Associates (JRA), which contracted him to oversee media production for the extensive re-imagining of the Permian Basin Petroleum Museum (Midland, Texas USA), set to open in the first quarter of 2016.

According to JRA senior creative and project director Rob Morgan: "The project actually began a decade ago, but was put on hold when oil prices dropped, affecting the museum's fund raising. Then a couple of years ago, when things had stabilized, the client called us up and the project was back on. This was when Don came in. As part of the process, we had to re-envision the hardware and software. Don was heavily involved in that process."

MacBain had collaborated with JRA several years earlier on two motion simulation attractions for Ferrari World Abu Dhabi, "Viaggio in Italia" ("Flying Over Italy") and "Driving with the Champion." JRA oversaw the creation of the park as concept designer, executive media producer and project manager. MacBain was then digital and post producer for Rhythm & Hues.

The media component of a contemporary museum can be substantial, which is why design firms such as JRA may bring in an outside specialist to oversee its production. Morgan described the Permian Basin Petroleum Museum as the

company's most media-intensive project to date, with "more films and live productions than any other project we've worked on." MacBain's responsibilities encompassed overseeing a body of work including two live action time lapse films, eight live action movies, fifty archival movies, five fully animated pieces, 20-plus screensavers, 16 audio-only pieces including ambient gallery soundtracks, three live datastream exhibits, and 16 interactive games and quizzes.





On the PetroTrekker set in Orlando, FL Clara Rice and Rob Morgan of JRA, Kathy Shannon of P.B.P.M., and Don MacBain

As content producer he was responsible to successfully see through development and supervise installation of the media software exhibits (based on JRA's design briefs), to liaise between the production company and the client, and to attend all live shoots, conferences and approval sessions, while keeping the project budget and schedule in mind.

First, you communicate

JRA's team on the project was headed by Clara Rice as acting project manager and by Rob Morgan. Other suppliers included Nassal building the physical sets, GoConvergence handling the massive video production needs, and Technomedia as AV integrator. Kathy Shannon, Executive Director of Permian Basin Petroleum Museum, represented the museum and its Board throughout the design and installation process.

As media producer, MacBain works to keep the project moving, with an acute awareness of available time and resources. If a concern arises, it must be communicated while there's still a window to effectively address it. "When I see the needs of the client and the needs of the production differing, I have to immediately find a way to reconcile that. Addressing any issues early on keeps them from heading in the wrong direction, which could become a huge problem with both scheduling and budget."

His demeanor is gentle and courteous - but persistent. "At the start of a project, finding out each person's communication style is of utmost importance," he said. "Do they read more than the first two lines (or even that) of an e-mail? Are they someone who requires a phone conversation? Are they good with texting? Maybe they have to see the other person, eye to eye, whether its a physical meeting or via Skype. Whatever their style, I need to know it so that I can be sure that critical information has gotten across. Issues, sometimes, must be brought up even awkwardly, otherwise people will walk away from a meeting thinking that everyone is on the same page - when on occasion nothing could be further from the truth. But you have to let each person feel they've been heard before announcing the disconnect. This is tricky."

Once the channels of communication are open, in addition to conveying concerns and production information, there's an opportunity to learn, share and grow on both sides. That included, on this particular project, MacBain learning about the petroleum industry, and Shannon learning about media production.

"During this process, I was inundated with items to review and approve – graphics, architecture, media," said Shannon. "Don was extremely helpful. He picked up on the small things that needed to be adjusted. We talked every week, and every week

he would send a link to the specific files I needed. Don would talk me through every piece of media, explain what needed to be tweaked. It took a lot of weight off my shoulders with the two of us working on it. He's very thorough and organized."

The changing media landscape

Given MacBain's versatility as a communicator, it's not surprising to find out he has adapted just as readily over the years to changing media platforms, production processes and client needs. In addition to his technical versatility, he can trace the similarities and differences between one industry sector and another, adapt, and bring the best of one to the other - just as JRA and other industry providers move between education, entertainment and corporate fields.

"If you have the experience, you know when the people doing the work are actually doing what they're supposed to do," MacBain said. "Having my history in animation, live action commercials, composing music for movies, and participating in the evolution of digital and all its uses and effects have given me a good compass." He's a member of the Producers Guild, the Visual Effects Society and the Themed Entertainment Association, and has a profile on IMDb.

In addition to the Ferrari World projects, MacBain's special format work includes having produced a number of giant screen films for nWave Pictures, contributing to breakthrough 3D productions such as "Fly Me to the Moon," and "African Safari 3D." One of his early jobs in giant screen was on the 1996 WGBH/NOVA IMAX documentary "Special Effects," directed by long time Star Wars sound designer Ben Burtt. "I produced the opening segment for the film, which recreated King Kong on a mythical San Francisco skyscraper," he said. "Since the film followed many different methods of visual effects, ours was done in stop motion." The film was nominated for an Academy Award for Best Documentary Short.

His career in visual effects was jump-started at the legendary visual effects house, Boss Film Studio, first with optical effects and, once Boss acquired its first Silicon Graphics machine, progressing to CGI. He spent time as a producer with Sony Pictures Imageworks, and with PDI/Dreamworks, where he produced the reformatting of a segment from its pioneering 3D animated feature "Antz" into IMAX 3D. He discovered that when a 2D image is reconfigured for a stereoscopic giant screen experience, the amount of detail and depth changes. "The change in field-of-view required expanding the landscape and populating the image with additional characters and animation."



Don MacBain (center, with his camera) & Mom, Disneyland circa 1966



On the set of Mythcrackers GoConvergence built and filmed the piece, directed by Warren Rogan and written by Dave Pool.

Following this, he produced the unreleased IMAX 3D version of "Shrek," creating feature animation specifically for giant screen. The project was canceled by the studio, but ultimately proved its usefulness. "It showed the studio that 3D could work for Shrek and instead of applying it to IMAX, they applied the technology to theme parks, where it was used for the 4D Shrek attraction at Universal."

"The great thing about the current state of the attractions industry is that it can blend well with museum exhibit design - opening new avenues of imagination for museum guests," said MacBain

Inside the Permian Basin Petroleum Museum

The Museum's wide range of media experiences was an opportunity for MacBain to apply much of his past experience with multiple formats and venue types.

Visitors will enter the new museum in the MythCrackers theater, themed as the set of a game show with the audience viewing the contestants. The content explores myths about the petroleum industry, addressing controversial topics such as fracking and who sets the price of oil. The show functions as an orientation before entering the exhibition halls, which are organized into two key themes - history of the industry and modern technology.

While MythCrackers acts as an introduction to the entire museum, PetroTrekker, which sits between the two themed sections, provides an interactive media introduction to the modern technology portion of the exhibition, introducing concepts that visitors can later explore in detail. MacBain named PetroTrekker as his favorite part of the project, and the most complex. On this simulated air trip in search of oil and gas around the world, 18 guests at a time enter a theater themed as a spaceship, for an 8-minute multimedia experience. The captain and crew (filmed at a soundstage in Orlando) appear on the main monitor plus three others. Three interactive stations allow visitors to engage thrusters, set shields, and perform other tasks. Subwoofers set in the floorboards provide a vibration upon takeoff while a circular screen set into the floor allows visitors to see what's below, including the Earth after launch. During their simulated journey, visitors learn about developing technologies, including drilling with lasers, and a sea-spider that is able to comb the depths of the ocean floor seeking indications of oil reserves.

Throughout the museum will be a series of touchscreen interactives. Shannon points out that "Don understood the touchscreen and games and how to make them more friendly for visitors. He also understood if an interactive piece was missing something to wrap it up, and made sure that was handled."

Morgan also spoke of MacBain's ability to address issues with the medium. "Interactives were an extensive part of this project," he said. "In this area, I was really impressed with Don's stick-to-it approach in getting things done."

Throughout the entire process, be it working on one of the theater experiences, an interactive, or simply audio playback, Shannon depended on MacBain's quality control and expert eye. "Production would record 10 voice-over actors and then whittle it down to three. He knew what voice would match the personality we were looking for. Don also was very adept at understanding the relationship of sounds to an exhibit and explained to us how, for our needs, looping videos can work better than videos that start when you're in their proximity."

Looking Forward

"This museum project is now one of my top 3 favorite projects I've ever worked on," said MacBain. (The other two are "Viaggio in Italia" and an animated spot for Wells Fargo Bank, a "living painting" based on the corporate logo, for which MacBain was animation producer in addition to writing and producing the score – he is also an accomplished musician and composer.)

"Working for design firm JRA was a fantastic and rewarding experience, as was working with the Museum. I treasure the experience and the relationships I developed with both."

Where might MacBain's dream and his knack for teamwork lead him next?

"I think one of the great untapped resources for museums may be augmented reality," he said, having just returned from a Visual Effects Society roundtable on the subject. "Right now, it's primarily being used for cars and retail advertising. But today's visitors – of all ages, really - come to museums with their heads down in their phones and tablets. We can incorporate those devices into the museum – I know it's already happening here and there, but I see the potential as still mostly unrealized. Augmented reality could be the next bridging of a technology to bring forth experiences within a museum you might not otherwise expect." •••

Don MacBain is attending the IAAPA Attractions Expo. Contact him at don.macbain@mac.com.

F-26 "Viaggio in Italia" (Flying over Italy) Dome ridefilm venue at Ferrari World Abu Dhabi Toshi Kato, R&H Image Engineer and Don MacBain, Digital Producer.





Storytelling in experiential design

Q & A with Daryl LeBlanc, AIA - Associate Principal, VOA Associates, Inc.

How does storytelling relate to entertainment design?

Storytelling is an integral part of entertainment design. Most projects have an underlying reason for being that can be expressed through stories. Whether it is creating an experience based around an IP, an educational component, or a significant culturally relevant venue, we find that stories are necessary to set the ground rules for the design. It would be problematic to define and develop the content for these projects without knowing how the story relates to the experience we are trying to convey.

What kind of projects do you employ storytelling on?

We try to incorporate storytelling into all of our projects. The most natural projects for this strategy include attractions and theme parks, museums and learning centers and RD&E [retail, dining and entertainment] venues. However, we have also found this to be an effective strategy in the design of projects within other markets, notably hotels and resorts.

How is the story developed?

This is dependent on the complexity and scale of the project. There have been occasions when we collaborate with consultants to research and write the stories, and in others, we have taken the lead for these efforts. Before design begins, an intense level of research takes place at the beginning of a project; the initial ideas are brought to the surface in a series of open discussions and workshops. Concepts, story outlines and experience fragments are discussed and debated until the ideal story for the client is developed. At that time, the actual writing begins. In some cases, this is no more than a list of several statements that comprise a series of "Goals and Outcomes" that we want all guests to experience. Other times, these "Goals and Outcomes" become expanded into a series of developed narratives that describe the experience from a guests' point of view. The goal is to identify and describe the things we want visitors to know, feel and do.

How do you incorporate storytelling in your design process? How is it expressed?

Depending on the scope and scale of the project, the composition of the project team including the Owner, and other related factors, we typically employ a range of storytelling techniques. The design process begins with the definition of the story. This may seem strange to those who are not familiar with this process, but it can actually form the basis for a more organized and linear method of designing, especially with large, multi-disciplinary teams. When story threads, goals and outcomes are defined prior to putting pen to paper, it is easier to







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judge the validity of a specific design idea as we move forward. We are then asking ourselves whether this design concept now supports and enhances the story as opposed to something more subjective, such as do we like it. It is therefore easier to keep a larger team engaged and moving forward in the same direction. It is a matter of constantly asking, how does this idea/detail/material support the story. As part of this process, we develop the actual design work through techniques like storyboarding to create a series of vignettes that express how the story relates to the guest's perspective. In some cases, we are more interested in creating a sequential series of experiences then determining practical solutions, such as where is the front door? We find that technical issues like that resolve themselves quickly leaving us time to focus on crafting the experience.

Does storytelling translate in the experience of the space? How?

I would say that these techniques do translate into the experience of the space. In some cases, this can be a very subtle overlay to what is happening, and in other cases, the story is at the forefront of how guests relate to the space. This range in story line prominence should be discussed early in

the process. In either scenario, we feel that the use of stories enhance any design by making all components work together. Whether everyone fully understands the complete extent of the story at the end of their visit is more difficult to control, but they should at least get a sense that the spaces are richly textured, highly compelling and ultimately interesting enough to capture their attention and imagination, ideally making them want to return.

Will this way of approaching design continue to be important or is there something else that will replace it?

In my opinion, this method of designing will continue to be important. It is a way of distinguishing spaces and creating experiences that are more than just about developing interesting and unique forms. There is a deeper connection to the individuals that experience these spaces, and hopefully the memories created resonate longer as a result. In the future, the evolution of story-based design will include the ability for stories to be even more individualized, with the potential to be specifically tailored to each guest. While this is happening now, think of components in a museum that cater to different levels of engagement, or elements in a theme park that are meant to captivate different age groups. I believe this individualization will become more important in the future. The idea that I can have one experience in a venue that may be completely different from someone else's yet both

scenarios create the same sense of fulfillment and desire to return is a powerful notion that we should consider. I believe this extends outward past the physical environment and affect the way guests make initial plans to visit these types of spaces, which is usually via the Internet. The guest experience does not start when you arrive at a facility, it starts far earlier when we begin our planning to visit such a space. Similarly, these experiences do not stop when we leave either. It is the creation of lasting memories that are at the root of these efforts. People remember stories, especially the ones that personally involve them. Creating this highly personal connection is the reason we use stories as the basis of design and why we feel that this strategy will continue to be a strong design tool in the future.

Since joining VOA's Orlando office in 2002, Daryl has been instrumental in building a thriving hospitality and commercial practice, currently serving as Senior Director for VOA's Hospitality Practice Group. He brings an exceptional expertise and knowledge base to the design and project management of complex themed entertainment environments, multi-component resorts and hotel facilities.







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Inside Detroit's Outdoor Adventure Center

by Martin Palicki

Set with the task of inspiring inner city families of Detroit to want to explore the great outdoors, The Michigan DNR (Department of Natural Resources) knew it had to think outside the box. "The development team had to figure out how to encourage people to come inside, only to inspire them to go back outside," explains Linda Walker, Director of the Outdoor Adventure Center in downtown Detroit

The team understood that the solution would have to be immersive, it would have to replicate the many wonders found around the state, and it would have to integrate technology to appeal to a modern audience. In practical terms, that meant highly themed environments, playful, imaginative spaces and a handful of specialty simulators replicating everything from snowmobiles to water-conserving toilets.

First, they needed a space. Through a public and private partnership, the DNR acquired a dilapidated building along the Detroit River, stabilized the structure and created an open space for exhibits. They then sought out experts at creating themed experience environments to help fill out the concept for the facility. Experiential design firm Weber Group led the creative process and helped assemble the rest of the team.

"This concept was really groundbreaking," explained Weber's Creative Director Adam McIntyre. "A typical DNR visitor center

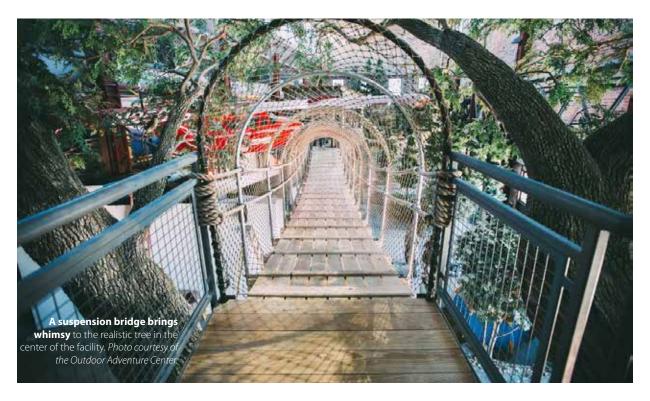
may include a diorama with a few animals and maybe a panel of local information. But trying to reach inner city kids who may otherwise never experience fishing, hunting, camping or the multitude of other activities available in the state's rural parks demanded a new approach and new ways of thinking about how to capture the attention of that target group."

With their fabrication services, Weber Group was also able to create nearly all of the themed elements in the building and contracted with other industry experts to bring the project together.

Weber chose Wärtsilä FUNA International (formerly FUNA) to be the technology integrator for the project. "We have worked with Wärtsilä FUNA before," explained McIntyre. "Their technical expertise and ability to use technology to connect with the guest was a perfect match for this project." They designed, installed and programmed the attraction's audio, video, and control systems, and developed several custom interactive exhibits.

Building on History

The Outdoor Adventure Center was originally a factory for shipbuilding, constructed in 1892 adjacent to a dry dock. In the 1960s the building primarily became a machine shop, housing





the largest crane in Detroit. Over time, the building fell into disrepair until the project was approved by the state in February 2013. It took a little over a year to solidify the building and fix the damage that had been done over decades of neglect.

The facility, once at a major industrial crossroads, now anchors multiple recreational corridors that include a riverwalk, a state park, and bicycle trails.

The facility includes several multi-function rooms that host birthday parties, receptions, classes and meetings. An archery range requires a separate fee and reservation, with plans to host classes and drop-in sessions on the horizon. But the core experience takes place in a modern and airy space, taking full advantage of the open warehouse structure.

The Experience

After learning a bit about the building and area history, guests find themselves in a giant space filled with icons of nature. A waterfall is at one end. A giant tree reaches up in the middle of the room. Embers glow in a campfire and animals seem to be hidden everywhere.

The visuals are impressive, and seem to combine authenticity with a playground's whimsy. But there is also subtlety. Tracks

embedded in the floor match those of animals found nearby and birds chirp in the distance.

"To complement the visual landscape we wanted to create a soundscape to really simulate the sense of being outdoors," explained Scott Arnold, Vice President Design & Engineering for Wärtsilä FUNA. Some of the sounds come from specific experiences, while other ambient noises that fill the space. "The amount of detail and care invested in the project by the DNR is equal to many major theme park projects we have worked on."

Indeed, the space feels inspired. Nestled amongst the various environments are a variety of experience-based exhibits, some of which are highlighted here:

Water sports / Fishing

A 3,000-gallon fresh water aquarium is stocked with native species of fish. Guests learn about the importance of water conservation and can hop in a kayak mounted on springs to recreate the feeling of floating down a river while a projection shows scenes from a variety of Michigan waterways. Nearby, guests can climb aboard a small fishing boat and try their hand against a motorized fishing simulator. A machine pulls on the line, simulating a fish, and guests try to reel in "the big one."

State park lodging

Visitors learn that one doesn't need expensive equipment to enjoy a night in a state park. As they walk through a yurt identical to many found on campgrounds, they hear comments read from the visitor logs kept in cabins and yurts across the state.

Underground Michigan

The state's mining history comes to life in detailed rockwork crafted by Weber Group that replicates different kinds of rocks found throughout the state. Visitors also learn that Detroit sits atop a large salt mine and come face to face with creatures living in mines and caves.

Wetlands

Guests enter a life size duck blind to experience a recreated Michigan marsh land and its waterfowl inhabitants. As guests look out the window they have a panel in front of them with images and names of various birds. As guests place their hand over the images, the matching bird appears in the landscape and the sound of that bird can be heard. "Adam McIntyre wanted the interaction between the guests and nature to not be dominated by physical buttons," says Arnold. "So we created a system that takes advantage of the capacitive nature of the human body to trigger events without the need for buttons." As people move their hand around on the board, sensors are triggered and the birds are projected into the environment. As more birds are touched, through video and audio processing, more birds are layered into the environment.

At a different display guests can touch sculpted toads and frogs to hear the sometimes surprising sound that each specific amphibian makes. The installation, sculpted by Weber and including technology from Wärtsilä FUNA, makes use of the same capacitive technology used with the waterfowl.

Nearby, lily pads sculpted and painted into the floor produce different sounds of the wetlands as guests walk on each one. For this effect, Wärtsilä FUNA utilized a camera mounted above the lily pads. The camera analyzes movement within fields defined around the lily pads. As motion is detected it triggers the corresponding audio effects.

The tree

A giant tree fills up the center of the exhibit space. Weber fabricated the roots and base of the tree, which include tunnels and the entrance to a climbing structure that takes guests up to the second floor of the facility. NatureMaker created the trunk, branches and leaves, which are home to an eagle's nest.

On the third floor, as guests peer into the eagle's nest, they can pose for a photo of themselves inside a giant nest, with a nearby

One-on-one with Linda Walter, Director of the Outdoor Adventure Center

What was the inspiration for the Outdoor Adventure Center (OAC)?

Ron Olson, Director of Parks & Recreation of Michigan's DNR was committed to establishing service to the metro Detroit area. Prior to the Center, there was no DNR space in the city except for Milliken State Park [a small park along the river that is now adjacent to the OAC]. The Governor believed that a strong Detroit was necessary for a strong Michigan, so there was support for the project. Everyone felt it was necessary for the whole state to feel more connected

Really, the issue is a matter of legacy. If you didn't get to hunt or fish or camp when you were growing up, how would you pass that on? We wanted to reach a population that may have not had those opportunities, which informed the location selection process

What are the goals of the OAC?

We want to inspire, educate and connect people. First we hope to inspire people to learn about something they don't even know they like. Then we educate them on how to take that interest to the next level. Finally, we connect them to the rest of the state and the resources the DNR provides. We also have a secondary goal of inspiring careers in natural resources.

How do you see the facility changing/growing?

We have lot of room to grow our programming lineup, such as storytime with Santa in the forest, etc.

We are also looking at ways to enhance our messaging throughout the facility. We plan to close two weeks per year for maintenance and upkeep and will look at making adjustments and updates during that time.

How do you describe the facility to people who have never been there?

We are a unique destination, and to my knowledge we are the only organization to create such a space. We do not consider the OAC a museum. It's a hands-on experience for all things natural resource-based in Michigan. I tell people we are a big old park shoved inside a little building. kiosk available for instant emailing of the photo. Wärtsilä FUNA provided the technology and software for the kiosk, which has proven very popular with visitors.

A set of human-scale wings allows guests to see how large an eagle's wings are compared to the rest of its body. If guests flap their arms, a small sensor activates flapping motion on a model eagle suspended nearby.

Sustainable living

On the second floor, visitors learn how to apply conservation habits to their daily life through a recreated home environment. A water-conserving toilet serves as a highlight for many guests. The tank section houses audio and amplifier equipment, which plays a flushing sound when the appropriate lever is pressed.

State trails

The most technologically advanced part of the Center includes three different types of simulators. MediaMation created motion bases for a snowmobile and an ATV simulator that move in concert with video of real vehicles on Michigan trails.

Wärtsilä FUNA created the technology for a set of bicycle simulators. As guests pedal, a video of a bike trail speeds up or slows down to match the pace of the cyclist. Guests can also race one another along a trail.

Although there are other museum exhibits that use bicycles in a similar manner, Wärtsilä FUNA could not find an off the shelf solution that met the DNR's requirements and budget, so they decided to write their own software and provide a custom solution. Wärtsilä FUNA developed sensors on the bikes that

determine the pedaling speed and the software then translates and applies it to the video playback.

Hunting

The DNR seeks to encourage safe and ethical hunting. This standard off-the-shelf hunting simulation game is designed to teach people how to hunt safely.

In a nearby deer blind guests can point a spotting scope across the room at animals perched atop a three story tall rocky landscape with a waterfall. As animals come into the scope field, information about that animal appears on a nearby monitor. Wärtsilä FUNA designed the technology behind this unique interactive. It utilizes sensors similar to that in your cell phone to capture positioning data of the scope. It compares that data to the position of the animals, and then pulls up the appropriate image and data file for the screen.

Airplane

A small aircraft, originally used in animal counting and forest fire responses, sits high atop the ground and is accessible for guests to sit in. Inside, archived radio transmissions play over speakers mounted to the plane. A subwoofer provides rumbling noises similar to a plane's engine.

The Outdoor Adventure Center has only been open for a few months, but the response from the community has been extremely positive. "Detroit is truly on the upswing," says McIntyre. "The Center has been a catalyst for change in the community and is representative of the revitalization the entire city is experiencing."•••



A view inside the building before the project (inset) reveals just how spectacular of a transformation the Outdoor Adventure Center is. Photos courtesy of the Outdoor Adventure Center.





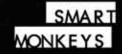
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From cranes to cobras

The Producers Group brings collaborative power to theme park projects

by Judith Rubin

Cobra's Curse™ opening in 2016 at Busch Gardens Tampa. *Photo courtesy of Busch Gardens Tampa*

Since The Producers Group (TPG) founding in 2011 by co-CEOs Bob Chambers and Edward Marks, the company has become best known for helping to realize some very large-scale, one-off attractions at resorts and theme parks in Asia, including the famous Crane Dance designed by Jeremy Railton. TPG was even the lead in a recent Los Angeles Times article about Southern California theme park companies bringing their specialized know-how to Asian markets.

But TPG's wide range of production and production support services are also in demand stateside for high-tech rides and attractions. The company was recently recruited by SeaWorld Parks & Entertainment to help create two new themed roller coaster experiences in Florida, as part of the external team working with the in-house creative arm. For Cobra's Curse™, a new, family-oriented spin coaster at Busch Gardens® Tampa, TPG is providing show production services, continuing through the construction phase. For Mako™, the hypercoaster at SeaWorld Orlando, TPG provided technical and production management services in the concept design phase. Both rides open in 2016.

It is an axiom of the visitor attractions industry that re-investment is key for any operator to stay competitive. SeaWorld Parks & Entertainment is introducing these new ride experiences at a

busy time for Florida tourism development. Merlin Entertainments and Crayola have entered the field. Universal and Disney continue to expand with new rides and projects. Tourism numbers continue to climb.

"We stand up against the competition with a highly differentiated product," says Brian Morrow, senior director attraction development and design, SeaWorld Parks & Entertainment. "Cobra's Curse™ and Mako™ are new entries into SeaWorld's ever evolving stories and experiences. Not only are they going to be fantastic and unique thrill rides, but also rich educational experiences. "Our differentiator in attractions is that SeaWorld Creative Studio creates Experiences that Matter."

Regarding TPG's involvement, Morrow said, "We always seek the best talent that can fulfill our business needs. TPG has worked with us successfully on some past attractions, and were the right fit for the style of attraction and type of work we are doing now."

Internal/External team dynamics

Pairing in-house resources with outside creatives and vendors is one of the ways park operators endeavor to keep their offerings competitive and their project process efficient while building the brand. It's seen as a business model that's good for the project, the park, the industry, and the guest.

For example, on Cobra's Curse™, TPG is providing show production and technical coordination with their scope touching media, lighting, sound and audio. TPG staff on the project includes Rob Palmer (associate producer), Andrew Rubio (project manager) and Doug Storm (technical director). Others on the distinguished external team include PGAV (attraction and facility design), Colette Piceau (creative producer/show writer) Melody Matheny (graphic design), Nassal (rockwork and plaster), ThemeWorks (graphics and props), exp (electrical engineering), MACK Rides (ride manufacturer) and PCL (general construction).

They answer to SeaWorld's internal team headed by Brian Morrow (creative director for the project), Jeff Hornick (project manager), Mike Denninger (overseeing ride engineering and install) and Mark Rose (local project executive at Busch Gardens Tampa). SeaWorld's education and zoological teams are also involved.

"Bringing in top outside specialists is good for our company," says Morrow. "It allows us to be most efficient, to find the best talent for individual projects and build the best possible team. We can change teams out by project, based on expertise, skillset, personality. It allows us to be fast, nimble, and to make the best choices at any given time in the marketplace and for the type of project. In addition to skills and experience, I look for a personality mix that will provide the most productivity and healthy relationships. In terms of creativity and innovation, the collaboration brings in the best ideas to help





strategically accomplish our goals. In order to protect the brand, we integrate everyone into the project team so that they feel they have a stake. People tend to protect what they create."

"Drawing upon an outside team, a client gets the advantage of all the collective experience of the members of that team," said Chambers, "from work done on other projects and in other parts of the world. The client gains a broader base of experience and instantaneous momentum. And speaking from the viewpoint of a company that specializes in this kind of collaboration, we're highly motivated to do well because we want to do it again for the same client in the future."

"As a design-build vendor, TPG has accumulated just the kind of experience a client needs from an external team," said Marks. "Having gone through all the steps on past projects with a lot of show and ride in them enabled us to build an experienced and dedicated staff. We're in a position to quickly recognize the stages of a project, so that whatever stage we are brought in, we can quickly get into sync and identify what needs to be done to get successfully to the grand opening."

TPG's resources

The internal/external team model is used on projects of all kinds, including museums as well as parks and attractions of all types and sizes. Established operators such as SeaWorld can strategically augment their existing staff; newer operators can enter the business more quickly. Seasoned creatives and techs take what they've learned and use that know-how to grow the industry in new ways and new directions. "It helps keep things fresh and competitive," said Chambers. "The guests who come to see the attractions get a better experience; the operator

makes more money, having created a better product; the bar is raised, and the whole industry benefits. You get more smiles all around."

There's constant competition to be the company that wins the bid to help build a great new attraction that raises the bar. To keep its own position as an international contender, TPG maintains offices in Los Angeles and Shanghai, and fulltime staff expert in a range of technical disciplines including project management, show production, technical direction, CAD, lighting design, AV and show control, show action and special effects. Several months ago Brian Paiva, a top business development executive, also joined the company.

In addition to their core fulltime staff, TPG will staff up further for particular projects. For instance, when they need a creative designer or creative director, they draw on their network to find the right fit for the job.

TPG principals see their production-centric, design/build culture as ideal for projects in today's markets. They've used wisdom and experience gained in both East and West to inform their process. "We are simultaneously protecting the creative vision and the client's interests, and helping to ensure a steady workflow," said Marks. "Many attractions industry developers, owners, and operators are looking for turnkey solutions. They want a process that combines overall project management and owner's representation. We have carved our niche as the company that does this."

Creative show programming

TPG's signature approach to show programming was founded on the expertise of Marks and of project manager Chris





The Mako shark is one of the fastest swimming sharks known. "It swims long distances and breaches out of the water because it is going so fast," said Morrow. And so the Mako™ hypercoaster was designed be the tallest, fastest and longest coaster in Orlando, and to move in ways that evoke its namesake creature. "The ride vehicle is a shark," said Morrow. "The guest gets to feel what it's like to be a Mako shark." As a hypercoaster, Mako™ will give riders a lot of "air time" (the feeling of weightlessness or floating) but no inversions. "It's what people love, and it makes it repeatable," said Morrow. The storytelling and theming will include the use of media, lighting and special effects that sometimes envelop the shark/vehicle, as well as scenics. In addition to being a thrill ride, aspects of the experience will educate riders to appreciate the shark, inform them about challenges sharks face in the wild, and what they can do to make things better.

SeaWorld's internal team includes Morrow (creative director/project manager), Michael Spencer (project manager), Mike Denninger (ride design and install), and Jeff Hornick (regional director for the company's attractions in Florida). As with Cobra's Curse™, SeaWorld's educational and zoological teams are involved. In addition to TPG, the external team includes PGAV (design), Luce Group (lighting design), ThemeWorks (design/build of all scenic elements, theme paint and graphics), exp (electrical engineering) and Pro Sound (audio design). Ride manufacturer: B&M.

Homsley, gained in theatrical and live show production. Marks describes it as "a little Olympics ceremonies, a little Cirque du Soleil, a little TPG. Chris and I both come from a place where creative programming is sacred," he said. "From dark rides to spectaculars to media based attractions, show programming is where all components come together. We treat all the tech disciplines like creative disciplines – as if they were performers on the stage – so they are all represented in the rehearsal and with the ability to adjust. We design all elements with the ability to adjust and tweak, and bring everyone together in the same place and at the same time under a very controlled scheduled series of events, and dial in all these individual elements in concert with other elements."

Marks described how the process was applied on Crane Dance. The unique spectacle at Resorts World Sentosa consists of two giant, animatronic cranes that evoke the eponymous birds. Each precisely programmed mechanical bird sports a huge video screen on its chest, and wings made of water streams. "The water wings are one of the most complicated things we've ever done, and the finished result is transparent to guests – a sure indication of its success. They're streams of salt water and they're moving in close proximity to the video screen. The video screen has video water that syncs with the real water. We light the water theatrically, and it is constantly changing and moving, and the

video water on the screens changes as well. The elements chase one another, and the only way to make something like this look real, to get it right is to do it in the space."

"It's like staging a play or choreographing a dance," said Homsley.
"The tech assets and creative assets have to work together."

"The result is a very integrated show – and that's our strength: an integrated show," said Marks. "It's something that has to be specifically scheduled and budgeted for, and the product is always much better for it. It makes creative directors happy because they don't have to be so locked down. It makes owners happy because they get to dial in the show the way they imagined it at the beginning."

TPG at IAAPA

The Producers Group is bringing eight staff to the 2015 IAAPA Attractions Expo in Orlando. The company is a Silver level sponsor of the Asia-Pacific Breakfast, and is setting up a room in the convention center for private business meetings during the show. To set up a meeting, contact Judd Nissen, info@producers-group.net. •••



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